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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/750,042

12/30/2003

Wang Yueh

42P18259

9165

59796

7590

01/07/2008

INTEL CORPORATION  
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EXAMINER

WALKE, AMANDA C

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

01/07/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/750,042		YUEH ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Amanda C. Walke		1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5-21 and 23-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-21, and 23-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/22/2007 has been entered.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-21, and 23-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasa et al (6,437,052) Harada et al (EP 1126322).

Harada et al disclose a polymer for a photoresist comprising (meth)acrylic monomers which may comprise a diol as instantly claimed (specifically see (5) on page 6 wherein R5-R7 may be a cyclic alkyl group). The reference teaches that these monomers may be employed in UV resist compositions in combination with other monomers.

Iwasa et al disclose a monomer having a diol structure meeting the instant claim limitations for use in a negative resist composition and patterning process. The alicyclic diols comprise -OH groups on adjacent carbons (see columns 3 and 4). Suitable cycloolefins include

adamantyl and norbornene structures. The monomers may be employed in combination with additional methacrylic monomers, however, the reference fails to specifically teach a monomer as instantly claimed. The resist further comprises a crosslinking agent, a PAG, and a solvent (see column 11). The resin coated onto a substrate, prebaked, exposed to light of a short wavelength such as 220 nm or shorter via an ArF laser, and developed (column 18). Suitable developers include 2.38 % TMAH. Iwasa et al has been discussed above, and further teaches that while not preferred, it is known in the art to include novolak monomers, or styrene based monomers in such compositions (column 1).

Given the teachings of the reference, it would have been obvious to one of ordinary skill in the art to prepare the material of Iwasa et al choosing to include an aromatic monomer in combination with the cyclic diol with reasonable expectation of achieving a material having high etch resistance.

It would have been obvious to one of ordinary skill in the art to prepare the material of Iwasa et al choosing to include the diol of Harada et al.

### ***Response to Arguments***

3. Applicant's arguments filed 10/23/2007 have been fully considered but they are not persuasive. Applicant has argued that the materials of the references may not be combined. Specifically, applicant has stated that Iwasa teaches that alicyclic groups employed in negative resists result in certain advantages. There is nothing in the reference teaching that monomers such as those taught by Harada may not be employed. The reference teaches that various other known monomers may be employed, and the Harada reference teaches similar monomers are employed in combination with the alkyl diols, therefore it would have been obvious to employ

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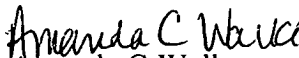
the monomers of Harada in combination with the preferred compounds of Iwasa absent evidence to the contrary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337.

The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Amanda C Walke  
Primary Examiner  
Art Unit 1795

ACW  
December 30, 2007